



MEMORANDUM

TO: HONORABLE SHARPE JAMES, MAYOR  
JOANNE WATSON, BUSINESS ADMINISTRATOR  
MICHELLE HOLLAR-GREGORY, CORPORATION COUNSEL

FROM: PAMELA E. GOLDSTEIN, COMMUNICATION MANAGER *pej*

DATE: JUNE 22, 2000

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Please note attached findings regarding Kent Street Plane Crash.

Refer to page 3: Medical and Pathological Information. Associated Press is asking for a comment.

Please advise.

## NYC00FA039

## HISTORY OF FLIGHT

On November 26, 1999, about 1053 Eastern Standard Time, a Beechcraft S35, N8992M, was destroyed when it impacted a building in a residential area. The certificated airline transport pilot and the two passengers received fatal injuries. In addition, two individuals on the ground received serious injuries, and 25 received minor injuries. Instrument meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan was filed. The personal flight departed Linden, New Jersey, about 1049, and was conducted under 14 CFR Part 91.

A review of air traffic control (ATC) communication tapes revealed that after departing Linden, the pilot contacted New York Departure Control. He was instructed to turn left to a heading of 010 degrees, and to maintain 5,000 feet. A few seconds later, the controller revised the clearance, and instructed the pilot to maintain 2,000 feet. Thirty-four seconds after that, the controller instructed the pilot to turn left to a heading of 270 degrees, to which the pilot did not reply. The controller reissued the heading, but there was still no response.

The controller made two more attempts to reestablish communications. After the second attempt the pilot responded, "I have a problem." The controller inquired about the problem and the pilot responded, "I had a gyro problem momentarily. It looks straightening now. I must of had water in the system." Twenty seconds after that, the controller radioed "...continue the right turn all the way around... correction you're in a left turn now." The pilot responded "yes sir... left turn climbing to niner thousand." The controller stated, "stop your climb at two thousand, turn left, left turn heading two seven zero." The controller then asked the pilot if he was ok to navigate. The pilot responded, "I think I have a problem." The pilot then requested a climb. The controller instructed the pilot to maintain 2,000 feet and requested the pilot's current heading. The pilot responded, "...looks like zero three zero." The controller then instructed the pilot to turn left to 270 degrees, to which the pilot did not respond. The controller reissued the altitude and heading. Still there was no response. The controller then radioed "niner two mike I need to be acknowledged please." The pilot replied, "I have a problem." This was the last recorded transmission from the accident airplane.

Examination of radar data showed a target, using the accident airplane's assigned transponder code, heading east at an altitude of approximately 900 feet, when the pilot first reported a problem. Over the next 2 minutes, the target's ground track changed from east, to north, to northeast, to northwest, and then back to north. In the last 30 seconds of radar data, the target reached a maximum altitude of 2,800 feet and a 161 knots of airspeed, before beginning a descent that reached approximately 10,000 foot-per-minute.

The accident happened during the hours of daylight. The wreckage was located 40 degrees, 43.807 minutes north latitude, 74 degrees, 12.152 minutes west longitude, and about 220 feet elevation.

## OTHER DAMAGE

Approximately 18 buildings received varying degrees of damage. The damaged ranged from broken windows to structural. Three of the buildings were condemned, and then demolished. The City of Newark estimated the property damage to be approximately \$1,150,000. In addition, approximately eight automobiles were damaged as a result of the accident. Four of them were destroyed with the

remaining seven receiving varying degrees of impact and fire damage.

#### PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with an airplane single-engine-land rating. In addition, he held a commercial pilot certificate with ratings for airplane multi-engine land, single-engine-sea, and glider. His last Federal Aviation Administration second class medical certificate was dated November 1, 1999. On the medical application, the pilot reported 5,800 hours of total flight experience, with 120 hours in the last 6 months.

Two pilot logbooks were examined. The first one was a conventional logbook that started on January 1, 1992 and ended on December 4, 1998. In the previous "total box" at the beginning of this logbook was an entry for 2,253 hours. Over the 7-year period covered by the logbook, the pilot logged an additional 1,764 hours of flight experience. The second logbook examined was computerized. It started on January 1, 1999, and the last entry was on July 5, 1999. During this period, the pilot logged 155 hours of flight experience. The combination of the two logbooks indicated the pilot had a total flight experience of 4,172 hours, with 1,308 hours of that in actual instrument conditions. Witnesses reported that the pilot was actively flying to the date of the accident.

#### METEOROLOGICAL INFORMATION

The weather observation for Newark International Airport, Newark, New Jersey, at 1051, was 2-1/2 miles of visibility, light rain and mist, 600 foot scattered, 1,300 foot broken, temperature 61 degrees Fahrenheit, dew point 59 degrees Fahrenheit, and an altimeter setting of 30.02 inches of mercury.

#### WRECKAGE AND IMPACT INFORMATION

Oriented south to north, the debris path was approximately 760 feet long, and for reference purposes was divided into 1-foot increments called stations. Station 1 was an impact mark on the southwest corner of the roof of an abandoned three-story brick building. Approximately 50 percent of the roof and 50 percent of the third floor were consumed in the post-crash fire. On the third floor, melted aluminum was found below the initial impact mark. On the northwest corner of the roof, which was not consumed by fire, were sections of the airplane totaling about 120 pounds. After the brick building, the debris path continued to the north primarily along the left side of a residential street. It then crossed a road at station 420, a parking lot at station 480, and then another road at station 580 before ending at station 760.

Both propeller blades were located near station 335. Both blades had separated from the propeller hub, and both displayed chordwise scratching and leading edge gouging. In addition, both blades were broken into two sections. The fracture surfaces on the blades were consistent with overload, with the leading edge portion of the fractures consistent with tension, and the trailing edge consistent with compression.

The engine was separated from the airframe and was located at station 349. All six cylinders displayed evidence of impact damage, and approximately 80 percent of the crankcase had been compromised revealing the inner workings of the engine. An examination of the engine revealed no pre-impact failures or malfunctions. Both the primary and standby vacuum pumps had separated from their respective engine mounts. An external and internal examination of both units was preformed on scene, and no pre-impact failures or malfunctions were identified.

The main wreckage was wrapped around a telephone pole at station 385. It comprised approximately 30 percent of the airplane's overall mass, and included portions of the tail, floorboard, cabin area and cockpit. The dimension of the main wreckage area was approximately 8 feet by 8 feet, and less than 2-1/2 feet high. Fracture surfaces for both the wing roots and tail section were consistent with overload.

Flight control continuity was verified for approximately 90 percent of the airplane, and no pre-impact failures or malfunctions were identified with the system. Continuity of the vacuum system plumbing could not be verified because of impact damage.

#### MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was preformed on the pilot, by Dr. Lyla E. Perez on November 27, 1999, at the Medical Examiners Office in Newark, New Jersey.

According to the autopsy report, the pilot died from multiple extensive traumatic injuries. In addition, the report stated that the pilot had 2.84 (mg/l) of butalbital in his urine, (1.28 mg/l) in his kidney, and 1.44 (mg/l) in his spleen.

Two toxicological tests were performed by the Federal Aviation Administrations Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma, on heart, kidney, lung, muscle, spleen, urine, and body tissue samples taken from the pilot. According to the test results, 3.239 (ug/ml, ug/g) of butalbital was detected in muscle, 1.887 (ug/ml, ug/g) of acetaminophen was detected in urine, and 102.488 (ug/ml, ug/g) of salicylate was detected in urine. Blood samples were not available for examination.

The FAA Toxicology and Accident Research Laboratory performed a study that compared muscle and blood levels of butalbital in post-mortem specimens. The laboratory reported that blood levels were higher than muscle levels in every individual tested, on the average 1.52 times higher.

According to the Journal of Analytical Toxicology, "blood and plasma concentrations of butalbital (from Fiorinal) was determined in a small group of healthy volunteers. After single oral doses of 100 mg of the drug, butalbital was quantitated by high-performance liquid chromatography with ultraviolet detection. Typical blood concentrations of butalbital peaked at 2.1 mg/L and declined to 1.5 mg/L at 24 hours."

According to the pilot's private medical records, he received a medical examination on February 16, 1976. During the examination, it was noted that he suffered from migraine headaches, and that he was using Fiorinal (a barbiturate, aspirin, and caffeine drug) to control the pain. Over the next several years, the pilot continued to be examined for migraine headaches, and his Fiorinal usage continued to increase.

On July 16, 1989, a telephone consultation was conducted by a nurse. It was noted that the pilot was suffering from "severe migraine" headaches, and that Tylenol or aspirin provided no relief. The pilot "refused to come in for an evaluation." He just wanted a refill that would last until morning when he could call an internist. It was also noted that the pilot was taking one Fiorinal every 4 to 6 hours. After July 16, 1989, there was no record of the pilot ever being evaluated for headaches.

According to pharmacy records, the pilot was dispensed over 6,000 tablets of Fiorinal or the generic equivalent from 1992 to October 1999. The records also indicated that in 1999, the pilot was dispensed 800 tablets of Fiorinal or the generic equivalent.

On the pilot's last FAA medical application, he stated that he was not taking any prescription or nonprescription medication, and he had never suffered from severe or frequent headaches. A review of every FAA medical application on file for the pilot, revealed the same statements as above.

According to The 1999 Physician's Desk Reference, "Fiorinal (butalbital, aspirin, and caffeine) is indicated for the relief of the symptom complex of tension (or muscle contraction) headache. Evidence supporting the efficacy and safety of Fiorinal (butalbital, aspirin, and caffeine) in the treatment of multiple recurrent headaches is unavailable. Caution in this regard is required because butalbital is habit-forming and potentially abusable....The most frequent adverse reactions are drowsiness and dizziness."

According to the October 1999 FAA Guide for Aviation Medical Examiners, a history or presence of any of the following conditions would preclude the issuance of a medical certificate: migraine headaches, migraine equivalent, cluster headaches, chronic tension headache, or conversion headaches.

In addition, the publication stated that, "...pain, in some conditions, may be acutely incapacitating. Chronic recurring headaches or pain syndromes often require medications for relief or prophylaxis, and in most instances, the use of such medications is disqualifying because they may interfere with a pilot's alertness and functioning. The Examiner may issue a medical certificate to an applicant with a long standing history of headaches if mild, seldom requiring more than simple analgesics, occur infrequently, and are not incapacitating, and are not associated with neurological stigmata." This exact same language is used in the September 1996 FAA Guide for Aviation Medical Examiners.

## TESTS AND RESEARCH

On December 27, 1999, the RAPCO standby clutch assembly was disassembled and examined under the supervision of a Safety Board Investigator at RAPCO's facility in Hartland, Wisconsin. The engine-side of the clutch displayed rotational scoring consistent with a momentary impact, and the vacuum pump side did not. In addition, electrical and mechanical continuity for the clutch assembly was verified. No pre-impact failure or malfunctions were identified.

Three gyros, and two gyro cases, were examined by the Safety Board's Material Laboratory. The vacuum driven gyro from the attitude indicator displayed rotational scoring. No rotational scoring was observed either on the horizontal-situation indicator's (HSI) vacuum driven gyro, or on the turn coordinator's electric driven gyro. In addition, static marks consistent with no or little rotation were observed on the HSI gyro housing. The turn-coordinator-gyro housing was not recovered.

## ADDITIONAL INFORMATION

The wreckage was released to the owner's insurance company on March 18, 2000.

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